SERVICE MANUAL EQ130

marantz®

model EQ130

Stereophonic Graphic Equalizer

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound. Only **original MARANTZ parts** can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available to our National Marantz Subsidiary or Agent.

ORDERING PARTS:
Parts can be ordered either by mail or by telex. In both cases, MARANTZ part number has to be specified. If you order by mail, fulfil MARANTZ order forms.

MARANTZ S.A.
EUROPEAN PARTS DEPARTMENT
2, Avenue Léopold III
B-7120 PERONNES-lez-BINCHE
BELGIUM
TWX: 57589 SEPLT B

The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature: any order form or telex must be signed otherwise such part order will be considered as null and void.

PARTS ORDERING:
Parts may be ordered from the following addresses:

EUROPE

MARANTZ S.A.
European Parts Department
2, Avenue Léopold III
B-7120 Péronnes-lez-Binche
Belgium
Telex: 57589

MARANTZ NORSKE A.S.
Refstadalleen 13
Oslo 5
Norway
Telex: 19659

MARANTZ DENMARK
Bregnerødvej 132b
3460 Birkerød
Denmark
Telex: 39137

MARANTZ GMBH AUSTRIA
Wiedner Hauptstrasse 98
1050 Wien
Austria
Telex: 113583

MARANTZ S.A.
326 Avenue Louise Bte 32
1050 Brussels
Belgium
Telex: 26602

MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
France
Telex: 611651

MARANTZ BELGIUM
45 Rue Auguste Van Zande
1080 Brussels
Belgium

MARANTZ SVENSKA A.B.
Svartviksvangen 56
Traneberg - Box 12016
16112 Bromma
Sweden
Telex: 13449

MARANTZ GERMANY GMBH
Max Planckstrasse, 22
6072 DREIEICH 1
West Germany
Telex: 4185316

MARANTZ AUDIO U.K. LTD.
Unit 15/16
Saxon Way Industrial Estate
Moor Lane
Harmondsworth UB7 OLW
Great Britain
Telex: 935196

AUSTRALIA

MARANTZ AUSTRALIA PTY., LTD.
32 Cross Street
Brookvale, N.S.W. 2100
Australia
Telex: 24121

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please, contact the nearest facility for the necessary assistance.

In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

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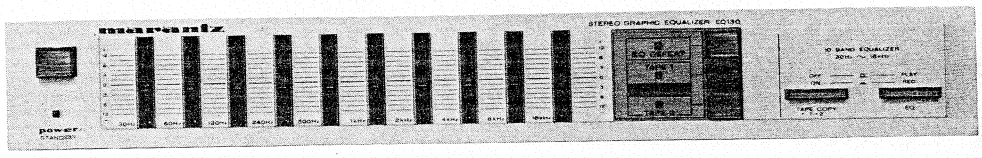
MODEL EQ130 GRAPHIC EQUALIZER



INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for the Marantz Model EQ130 Graphic Equalizer.

Servicing information and voltage data included in this manual are intended for use by knowledgeable and experienced personnel only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of circuitry operation.

The parts list furnishes complete ordering information. Most replacement parts should be ordered from the Marantz Company. However, a simple description is included for parts which can be obtained locally.

1. FEATURES

- **Tone Quality of Divided Frequency Bands Correctable**
  Tone quality of a specific one of 10 frequency bands divided (30 Hz, 60 Hz, 120 Hz, 240 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz) can be accurately corrected. A correction range is as wide as ±12 dB to offer satisfactory effects.

- **Input Changeable in Single Finger Motion**
  Line input (for example, FM broadcasting by the tuner connected to the amplifier or recording) can be changed to tape input and the recording monitor of tones corrected by the equalizer and equalizer circuits can be cleared on the front panel by finger-tip control.

- **Terminals Only for Tape Recorder**
  Two I/O terminals each are provided only for the tape recorder to permit direct recording to tones corrected by the equalizer on it.

2. P.W. BOARDS

As can be seen from the circuit diagram chassis of Model EQ130 consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. **LED . . . . . mounted on P.W. Board PD01**
2. **Main . . . . . mounted on P.W. Board PE01**
3. **EQ Volume . . . . . mounted on P.W. Board PF01**
4. **Power LED . . . . . mounted on P.W. Board PG01**
5. **Defeat/Tape 1-2 Switch . mounted on P.W. Board PX01**
6. **Power Switch . . . . . mounted on P.W. Board PW01**

• STK6325C QE03, QE04

• Maximum Ratings (Ta = 25°C)

(Tentative)

Characteristics	Symbol	Conditions	Limits	Unit
Max. supply voltage	V_{CC}		+16	V
	V_{EE}		−16	V
Power dissipation	Pd max.	Ta < 60°C	800	mW
Operated temperature	Topg		−20 ~ +70	°C
Storage temperature	T_{stg}		−40 ~ +100	°C

• Recommended Operating Conditions (Ta = 25°C)

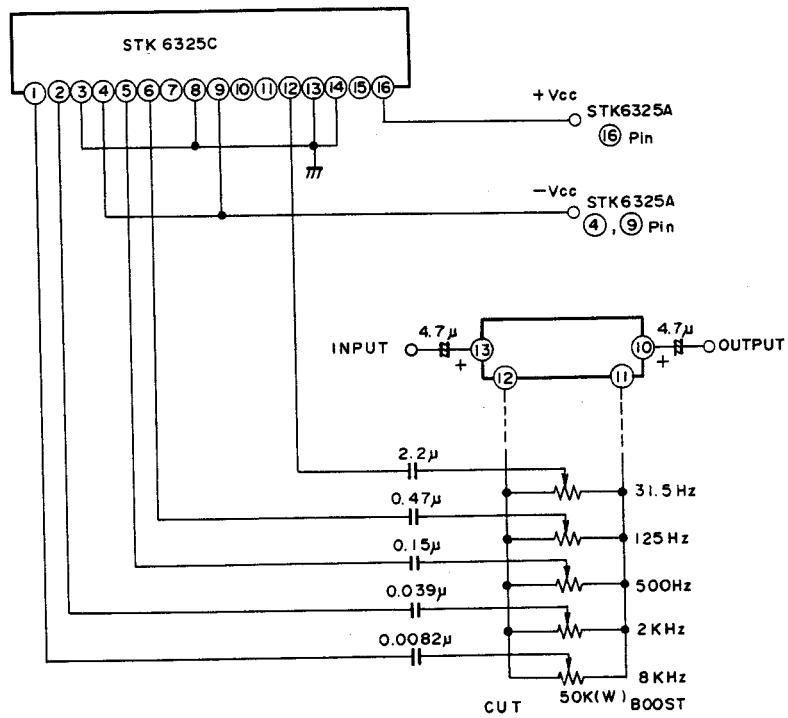
Characteristics	Symbol	Conditions	Limits	Unit
Supply voltage	$\pm V_{CC}$		±12	V
	V_{CC}	at single power supply	24	V

• Operating Characteristics (Ta = 25°C, V_{CC} = 24V, with STK6325A)

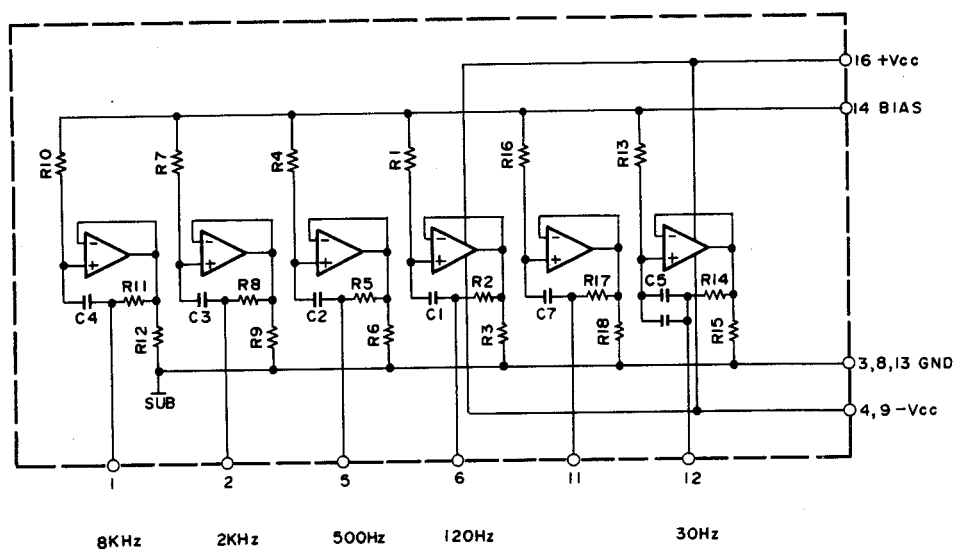
Characteristics	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Quiescent current	$I_{CCO}(1)$	24		18		mA
	$I_{CCO}(2)$	±12V		7.5	14	mA
Frequency	f (1)	f = 31.5 Hz VR max./min.	±10	±12	±13	dB
	f (2)	f = 125 Hz Vo ref = 0.5V	±10.5	±12	±13	dB
	f (3)	f = 500 Hz	±10.5	±12	±13	dB
	f (4)	f = 2 kHz	±10.5	±12	±13	dB
	f (5)	f = 8 kHz	±10.5	±12	±13	dB
	f (6)	f = 32 kHz	±10.5	±12	±13	dB

Remarks: The above characteristics are based on the specified test circuit.

● **STK6325C Test Circuit and Application** (±Vcc)



● **STK6325C Equivalent Circuit**



• STK6325A QE01, QE02

• Maximum Ratings (Ta = 25°C)

(Tentative)

Characteristics	Symbol	Conditions	Limits	Unit
Max. supply voltage	V_{CC}		+16	V
	V_{EE}		−16	V
Power dissipation	Pd max.	Ta < 60°C	800	mV
Operating temperature	Topg		−20 ~ +70	°C
Storage temperature	Tstg		−40 ~ +100	°C

• Recommended Operating Conditions (Ta = 25°C)

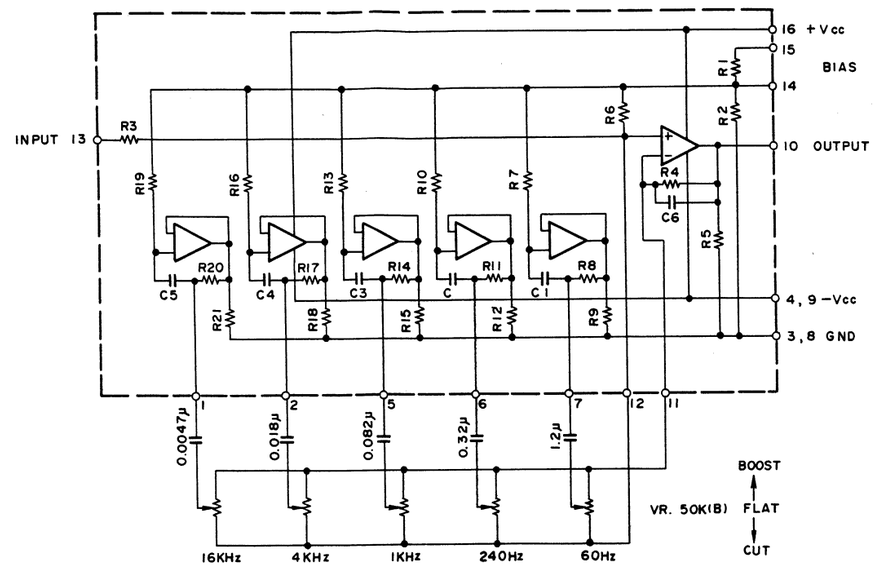
Characteristics	Symbol	Conditions	Limits	Unit
Supply voltage	$\pm V_{CC}$		+12	V
	V_{CC}	at single power supply	24	V

• Operating Characteristics (Ta = 25°C, V_{CC} = 24V, f = 1 kHz, at FLAT position)

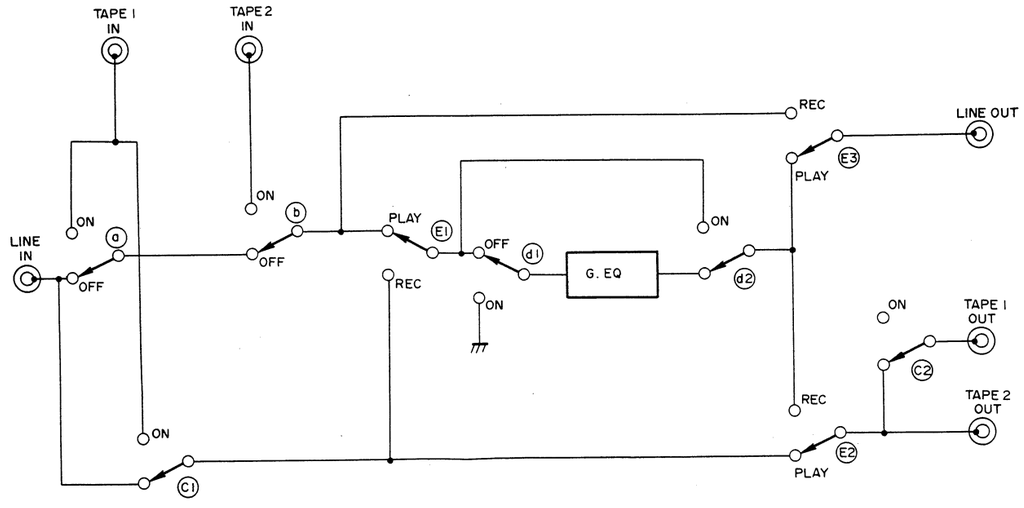
Characteristics	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Quiescent current	$I_{CCO}(1)$	24V		28		mA
	$I_{CCO}(2)$	±12V		7.5	14	mA
Voltage gain	V_G		−1	0	+1	dB
Output voltage	V_O	THD = 1%	6.3	7.4		Vrms
Total harmonic dis.	THD	V_O = 1V		0.01	0.02	%
Output noise voltage	V_{NO}	Rg = 0Ω		0.1	0.3	mVrms
Frequency	f (1)	f = 63 Hz VR max./min.	±10	±12	±13	dB
	f (2)	f = 250 Hz Vo ref = 0.5V	±10.5	±12	±13	dB
	f (3)	f = 1 kHz	±10.5	±12	±13	dB
	f (4)	f = 4 kHz	±10.5	±12	±13	dB
	f (5)	f = 16 kHz	±10.5	±12	±13	dB
Input resistance	r_i			10k		Ω
Output resistance	r_o			200		Ω

Remarks: The above characteristics are based on the specified test circuit.

• STK6325A Equivalent Circuit and Application



• EQ130 Signal Block



a : TAPE 1
b : TAPE 2
C1, C2 : COPY 1−2
d1, d2 : DEFEAT
E1, E2, E3 : PLAY / REC EQ

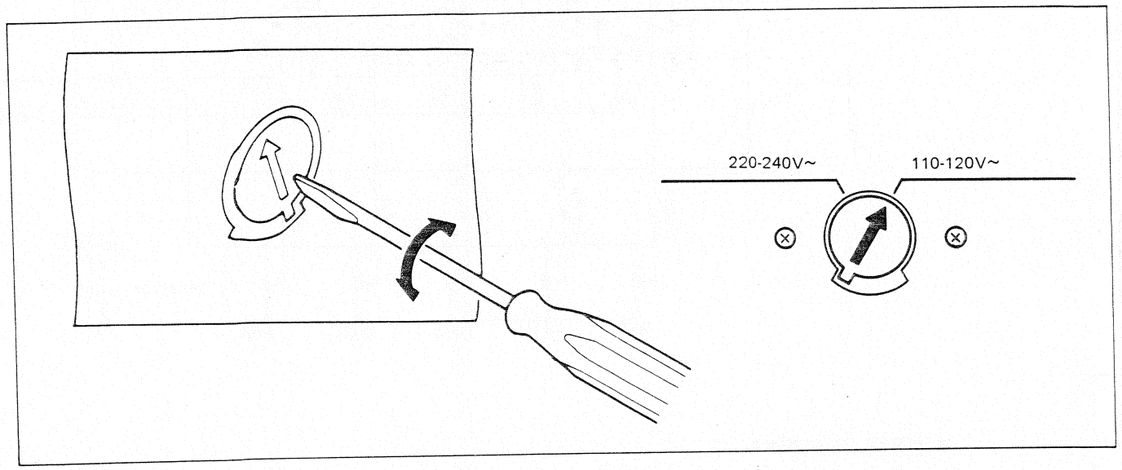
3. VOLTAGE CONVERSION

• EUROPEAN MODEL ONLY

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

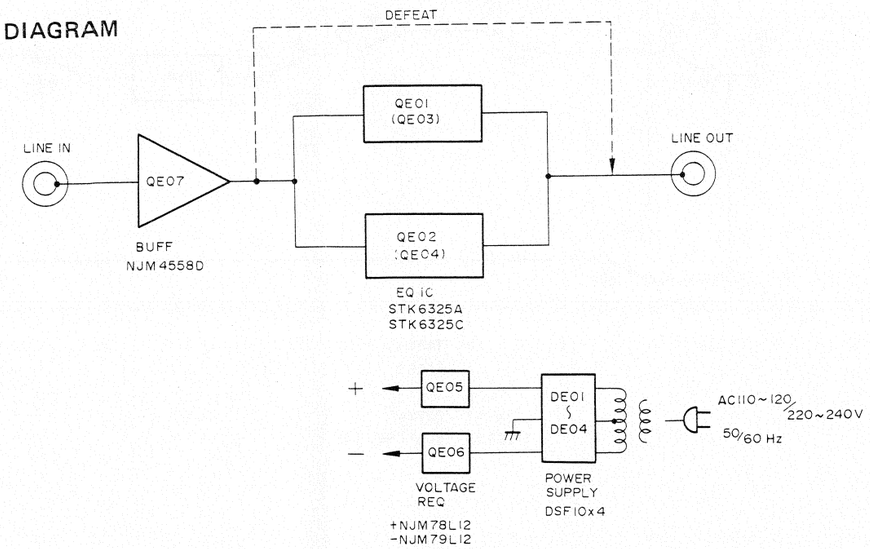
CAUTION
DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.

Voltage Conversion Chart



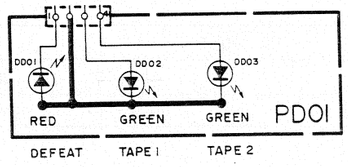
Note on safety: Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

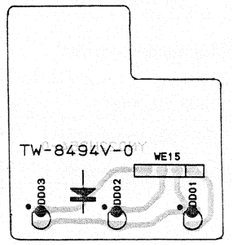
4. BLOCK DIAGRAM



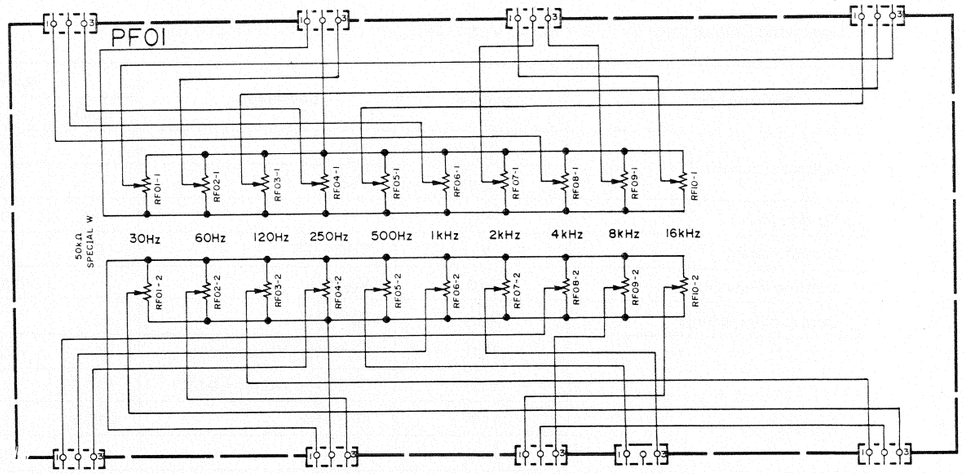
5. DIAGRAM AND COMPONENT LOCATIONS

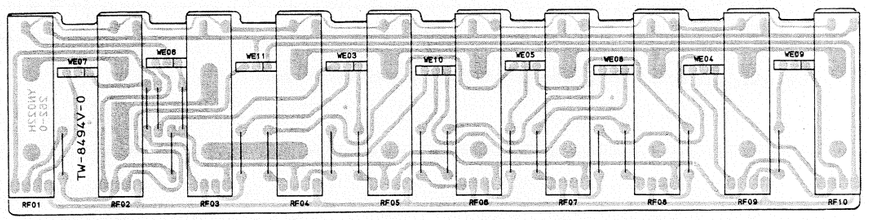
5.1 LED Assembly (PD01) Schematic Diagram and Component Locations



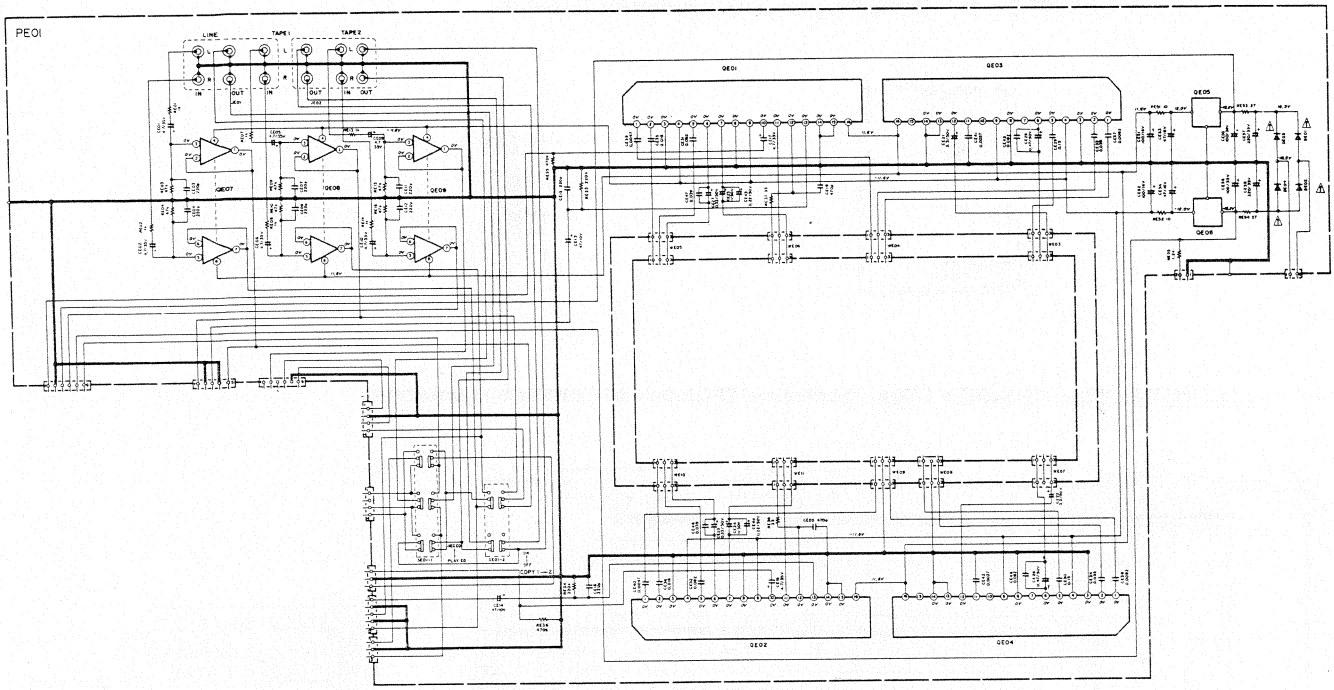


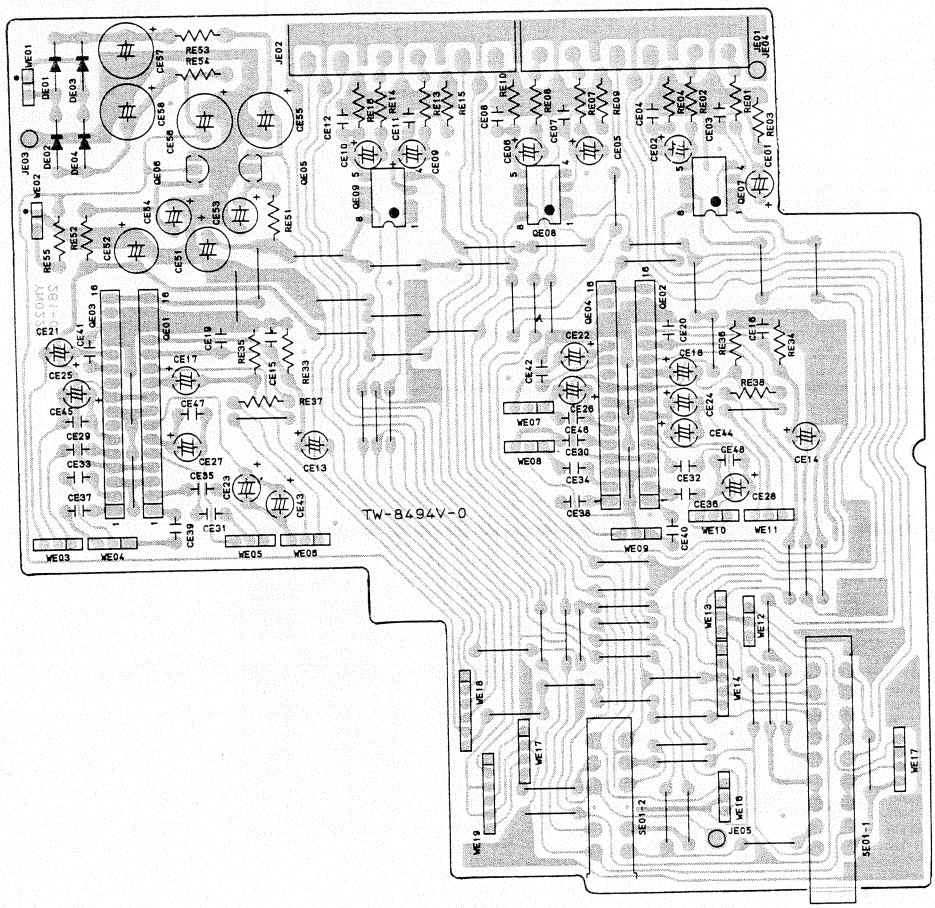
5.3 EQ, Volume (PF01) Schematic Diagram and Component Locations



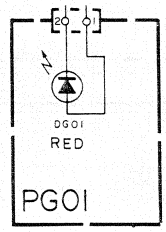


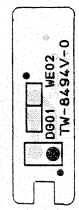
5.2 Main (PE01) Schematic Diagram and Component Locations



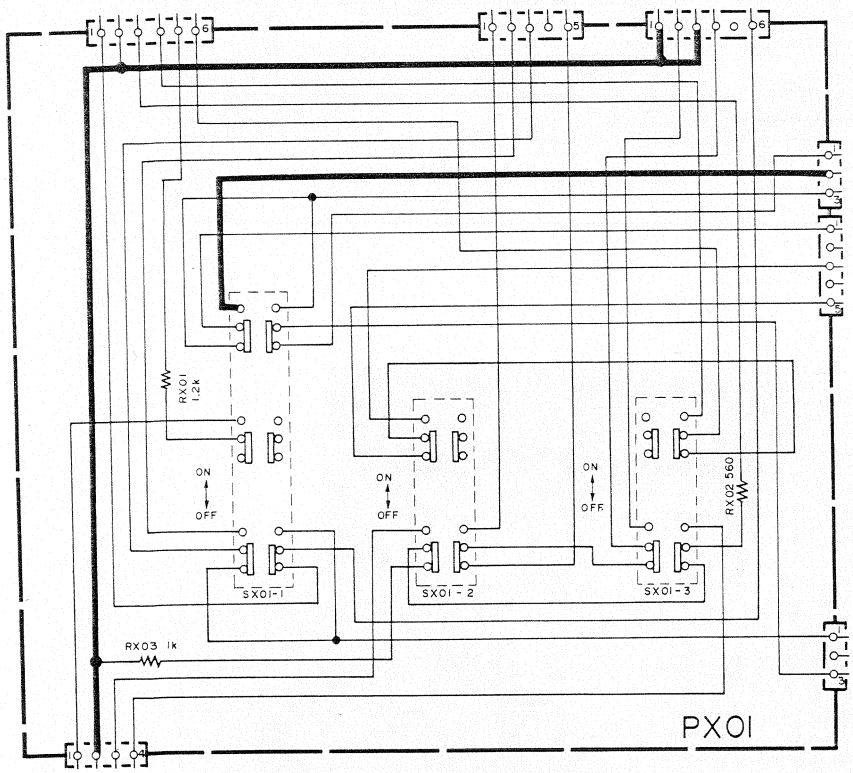


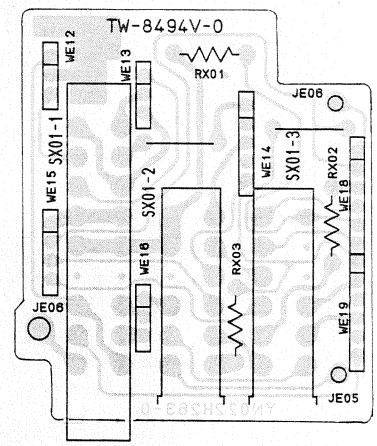
5.4 Power LED (PG01) Schematic Diagram and Component Locations



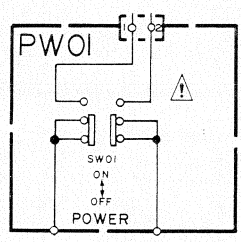


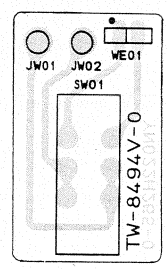
5.5 Defeat Tape 1-2 Switch (PX01) Schematic Diagram and Component Locations



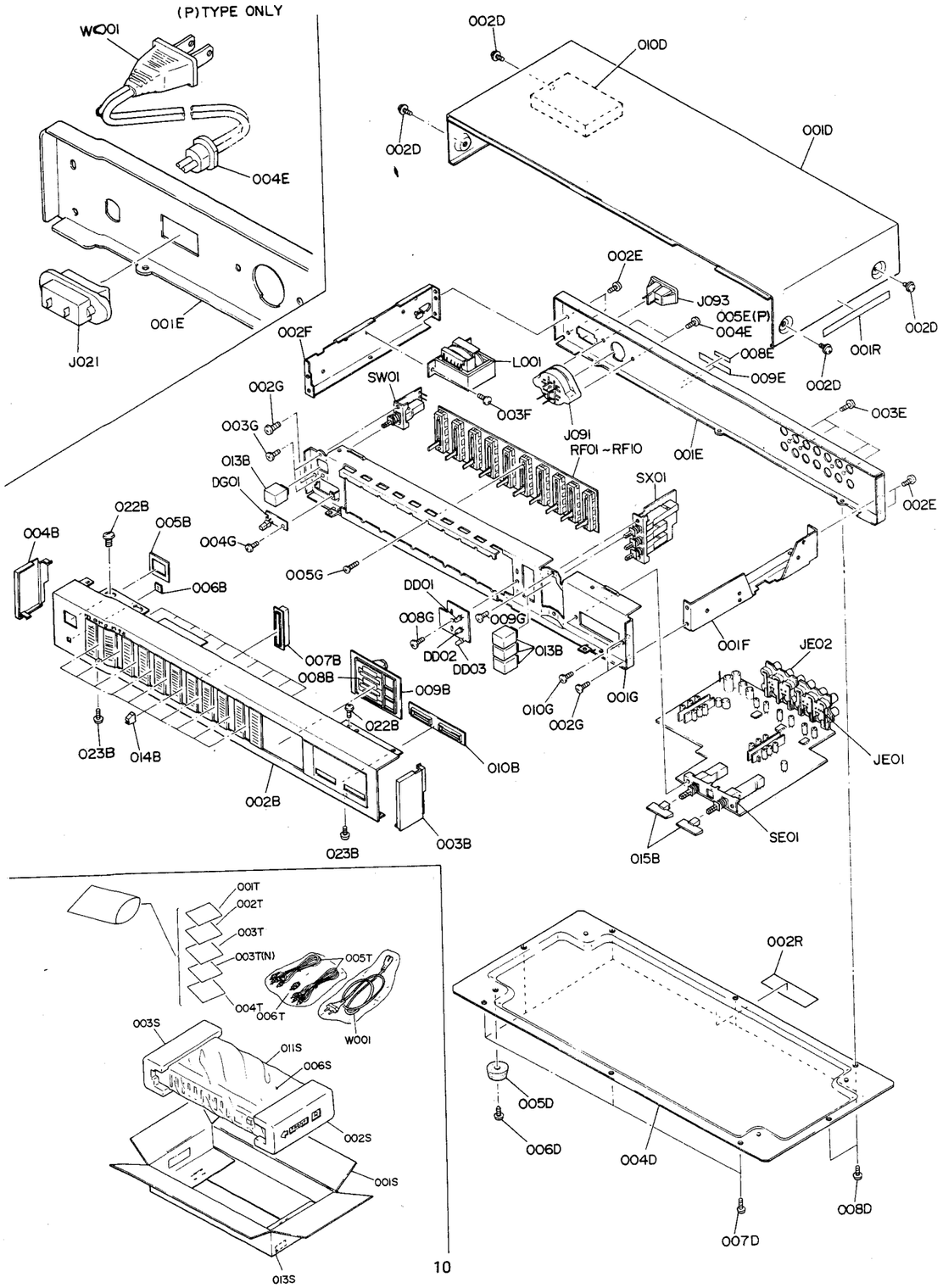


5.6 Power Switch (PW01) Schematic Diagram and Component Locations





6. EXPLODED VIEW AND PARTS LIST



MECHANICAL PARTS LIST

- (N): for Europe
- (A): for Australia
- (P): for PX

REF. DESIG.	Q'TY N	A	P	PART NO.	DESCRIPTION
A	1	1	1	022H063400	Front Panel Assembly
002B	1	1	1	022H063010	Escutcheon Front Panel
003B	1	1	1	415H067010	Cap, Front Panel Side (Right)
004B	1	1	1	415H067020	Cap, Front Panel Side (Left)
005B	1	1	1	415H259210	Bushing, Power
006B	1	1	1	125H158010	Window, Power Led.
007B	10	10	10	022H259020	Bushing, Slide VR
008B	1	1	1	022H158010	Window, Defeat, Tape 1, Tape 2
009B	1	1	1	022H259010	Bushing, Defeat, Tape 1, Tape 2
010B	1	1	1	022H259030	Bushing, Tape Copy, Play EQ
013B	4	4	4	415H154210	Knob, Power, Defeat, Tape 1, 2
014B	10	10	10	208H154450	Knob, Slide VR
015B	2	2	2	022H154010	Knob, Tape Copy, Play EQ
022B	2	2	2	51280308B0	B.H. Tap. Screw B3 x 8
023B	2	2	2	51280308B0	B.H. Tap. Screw B3 x 8
001D	1	1	1	415H257210	Lid, Top Cover (Gold)
002D	4	4	4	51260408U0	B.T. Screw (W/W)
004D	1	1	1	415H257020	Lid, Bottom Cover
005D	4	4	4	415H057010	Leg, Bottom Cover
006D	4	4	4	51280408B0	B.H. Tap. Screw B4 x 8
007D	3	3	3	51280308B0	B.H. Tap. Screw B3 x 8
008D	5	5	5	51280308B0	B.H. Tap. Screw B3 x 8
010D	1	1	1	2979056020	Buffer, Top Cover
001E	1	1		022H160220	Bracket, Rear Panel
001E			1	022H160230	Bracket, Rear Panel
002E	4	4	4	51280308B0	B.H. Tap. Screw B3 x 8
003E	4	4	4	51280308B0	B.H. Tap. Screw B3 x 8
004E	2	2		51280308B0	B.H. Tap. Screw B3 x 8
004E			1	1455259030	Bushing A.C. Cord
005E			2	51280308B0	B.H. Tap. Screw B3 x 8
008E	1	1		4581861010	Lebel Made in Japan
009E	1	1	1	2112265010	Indicator Serial No.
001F	1	1	1	415H126010	Stay, (R)
002F	1	1	1	415H126020	Stay, (L)
003F	2	2	2	51280406B0	B.H. Tap. Screw B4 x 6

REF. DESIG.	Q'TY N	A	P	PART NO.	DESCRIPTION
001G	1	1	1	022H160010	Bracket, Front Chassis
002G	4	4	4	5128030680	B.H. Tap. Screw B3 x 6
003G	2	2	2	51060308A9	P.H.M. Screw B3 x 8
004G	1	1	1	51280308B0	B.H. Tap. Screw B3 x 8
005G	12	12	12	5110020350	B.H.M. Screw B2 x 3
008G	1	1	1	51280308B0	B.H. Tap. Screw B3 x 8
009G	2	2	2	51060308A9	P.H.M. Screw P3 x 8
010G	2	2	2	51060308A9	P.H.M. Screw P3 x 8
001R	1	1	1	2911861140	Label
002R	1	1	1	2911861110	Label
⚠ J021			1	YJ04000990	Jack, AC Outlet
⚠ J091	1	1	1	BY05060060	Volt. Select.
⚠ J093	1	1		YP04000580	Plug, AC Inlet
⚠ L001	1	1		TS14134040	Power Transformer
⚠ L001			1	TS14134050	Power Transformer
					PACKING
001S	1	1		022H801020	Packing Case
001S			1	022H801030	Packing Case
002S	1	1	1	415H809010	Cushion (R)
003S	1	1	1	415H809020	Cushion (L)
006S	1	1	1	9090808030	Polyethy Sheet
011S			1	2918107390	Sheet
013S		4		9526019030	Serial No Card
013S			3	9526019050	Serial No Card
013S	4			9526019060	Serial No Card
001T	1	1	1	022H851310	Instructions
002T	1	1	1	022H851320	Instructions, Spec
003T	1			022H856010	Circuit Diagram
003T		1		9631000090	Guarantee Card
003T			1	416H854010	Guarantee Card
004T			1	3435851210	Instructions
005T	2	2	2	ZD01000170	Connective Cord
006T			1	YJ04000240	Jack
⚠ W001	1			ZC01805010	A.C. Power Cord
⚠ W001		1		ZC02006020	A.C. Power Cord
⚠ W001			1	YC01900070	A.C. Power Cord

7. ELECTRICAL PARTS LIST

- (N): for Europe
- (A): for Australia
- (P): for PX

REF. DESIG.	Q'TY N	A	P	PART NO.	DESCRIPTION
					PD01-LED CIRCUIT BOARD
PD01	1	1	1	YN022H2610	P.W. Board LED
	1	1	1	ZZ022H8610	P.W. Board Assembly
					PD01-LED
DD01	1	1	1	HI10024080	L.E.D. SEL1210S Red
DD02	1	1	1	HI10023080	L.E.D. SEL1410E Green
DD03	1	1	1	HI10023080	L.E.D. SEL1410E Green
					PE01-MAIN CIRCUIT BOARD
PE01	1	1	1	YN022H2620	P.W. Board Main
	1	1	1	ZZ022H8620	P.W. Board Assembly
					PE01-CAPACITORS
CE01	1	1	1	EA47503530	Elect 4.7μF 35V
CE02	1	1	1	EA47503530	Elect 4.7μF 35V
CE03	1	1	1	DD15221370	Ceramic 220pF ±5%
CE04	1	1	1	DD15221370	Ceramic 220pF ±5%
CE05	1	1	1	EA47503530	Elect 4.7μF 35V
CE06	1	1	1	EA47503530	Elect 4.7μF 35V
CE07	1	1	1	DD15221370	Ceramic 220pF ±5%
CE08	1	1	1	DD15221370	Ceramic 220pF ±5%
CE09	1	1	1	EA47503530	Elect 4.7μF 35V
CE10	1	1	1	EA47503530	Elect 4.7μF 35V
CE11	1	1	1	DD15221370	Ceramic 220pF ±5%
CE12	1	1	1	DD15221370	Ceramic 220pF ±5%
CE13	1	1	1	EA47601030	Elect 47μF 10V
CE14	1	1	1	EA47601030	Elect 47μF 10V
CE15	1	1	1	DD15221370	Ceramic 220pF ±5%
CE16	1	1	1	DD15221370	Ceramic 220pF ±5%
CE17	1	1	1	EA47503530	Elect 4.7μF 35V
CE18	1	1	1	EA47503530	Elect 4.7μF 35V
CE19	1	1	1	DD15471370	Ceramic 470pF ±5%
CE20	1	1	1	DD15471370	Ceramic 470pF ±5%
CE21	1	1	1	EA33505030	Elect 3.3μF 50V
CE22	1	1	1	EA33505030	Elect 3.3μF 50V
CE23	1	1	1	EA10505030	Elect 1μF 50V
CE24	1	1	1	EA10505030	Elect 1μF 50V
CE25	1	1	1	EA47405030	Elect 0.47μF 50V
CE26	1	1	1	EA47405030	Elect 0.47μF 50V
CE27	1	1	1	EA33405030	Elect 0.33μF 50V
CE28	1	1	1	EA33405030	Elect 0.33μF 50V
CE29	1	1	1	DF15154310	Film 0.15μF ±5%
CE30	1	1	1	DF15154310	Film 0.15μF ±5%
CE31	1	1	1	DF15823310	Film 0.082μF ±5%
CE32	1	1	1	DF15823310	Film 0.082μF ±5%
CE33	1	1	1	DF15393310	Film 0.039μF ±5%
CE34	1	1	1	DF15393310	Film 0.039μF ±5%
CE35	1	1	1	DF15183310	Film 0.018μF ±5%
CE36	1	1	1	DF15183310	Film 0.018μF ±5%
CE37	1	1	1	DF15822310	Film 0.0082μF ±5%
CE38	1	1	1	DF15822310	Film 0.0082μF ±5%
CE39	1	1	1	DF15472310	Film 0.0047μF ±5%
CE40	1	1	1	DF15472310	Film 0.0047μF ±5%
CE41	1	1	1	DF15272310	Film 0.0027μF ±5%
CE42	1	1	1	DF15272310	Film 0.0027μF ±5%
CE43	1	1	1	EA22405030	Elect 0.22μF 50V
CE44	1	1	1	EA22405030	Elect 0.22μF 50V
CE45	1	1	1	DF15823350	Film 0.082μF ±5%
CE46	1	1	1	DF15823350	Film 0.082μF ±5%
CE47	1	1	1	DF15393310	Film 0.039μF ±5%
CE48	1	1	1	DF15393310	Film 0.039μF ±5%
CE51	1	1	1	EA10701630	Elect 100μF 16V
CE52	1	1	1	EA10701630	Elect 100μF 16V
CE53	1	1	1	EA47601630	Elect 47μF 16V
CE54	1	1	1	EA47601630	Elect 47μF 16V
CE55	1	1	1	EA10703530	Elect 100μF 35V
CE56	1	1	1	EA10703530	Elect 100μF 35V
CE57	1	1	1	EA22703530	Elect 220μF 35V
CE58	1	1	1	EA22703530	Elect 220μF 35V
					PE01-RESISTORS (All Resistors are ±5% & 1/4W)
RE01	1	1	1	GD05102140	1kΩ
RE02	1	1	1	GD05102140	1kΩ
RE03	1	1	1	GD05473140	47kΩ
RE04	1	1	1	GD05473140	47kΩ
RE07	1	1	1	GD05102140	1kΩ
RE08	1	1	1	GD05102140	1kΩ
RE09	1	1	1	GD05473140	47kΩ
RE10	1	1	1	GD05473140	47kΩ
RE13	1	1	1	GD05102140	1kΩ
RE14	1	1	1	GD05102140	1kΩ
RE15	1	1	1	GD05473140	47kΩ
RE16	1	1	1	GD05473140	47kΩ
RE33	1	1	1	GD05224140	220kΩ
RE34	1	1	1	GD05224140	220kΩ
RE35	1	1	1	GD05474140	470kΩ
RE36	1	1	1	GD05474140	470kΩ
RE37	1	1	1	GD05330140	33Ω
RE38	1	1	1	GD05330140	33Ω
RE51	1	1	1	GG05100140	10Ω
RE52	1	1	1	GG05100140	10Ω
RE53	1	1	1	NF02270140	27Ω, Fuseable
RE54	1	1	1	NF02270140	27Ω, Fuseable
RE55	1	1	1	GD05122140	1.2kΩ
					PE01-SEMICONDUCTORS
QE01	1	1	1	HC10108030	IC STK6325A
QE02	1	1	1	HC10108030	IC STK6325A
QE03	1	1	1	HC10109030	IC STK6325C
QE04	1	1	1	HC10109030	IC STK6325C
QE05	1	1	1	HC10024090	IC NJM78L12
QE06	1	1	1	HC10025090	IC NJM79L12
QE07	1	1	1	HC10001000	IC NJM4558D LA6458D AN6552
QE08	1	1	1	HC10001000	IC NJM4558D LA6458D AN6552
QE09	1	1	1	HC10001000	IC NJM4558D LA6458D AN6552
⚠DE01	1	1	1	HD20022030	Diode DSF10C
⚠DE02	1	1	1	HD20022030	Diode DSF10C
⚠DE03	1	1	1	HD20022030	Diode DSF10C
⚠DE04	1	1	1	HD20022030	Diode DSF10C
					PE01-TERMINAL
JE01	1	1	1	YT02060180	Terminal
JE02	1	1	1	YT02060180	Terminal
					PE01-SWITCH
SE01	1	1	1	SP06020170	Push Switch EQ/Copy
					PE01-JUMPER LEAD
WE01	1	1	1	YU02300260	Jumper Lead (2P)
WE02	1	1	1	YU02320260	Jumper Lead (2P)
WE03	1	1	1	YU03240260	Jumper Lead (3P)
WE04	1	1	1	YU03240260	Jumper Lead (3P)
WE05	1	1	1	YU03240260	Jumper Lead (3P)
WE06	1	1	1	YU03300260	Jumper Lead (3P)
WE07	1	1	1	YU03340260	Jumper Lead (3P)
WE08	1	1	1	YU03240260	Jumper Lead (3P)
WE09	1	1	1	YU03200260	Jumper Lead (3P)
WE10	1	1	1	YU03300260	Jumper Lead (3P)
WE11	1	1	1	YU03340260	Jumper Lead (3P)
WE12	1	1	1	YU03160260	Jumper Lead (3P)
WE13	1	1	1	YU03140260	Jumper Lead (3P)
WE14	1	1	1	YU05140260	Jumper Lead (5P)
WE15	1	1	1	YU04160260	Jumper Lead (4P)
WE16	1	1	1	YU03160260	Jumper Lead (3P)
WE17	1	1	1	YU04100260	Jumper Lead (4P)
WE18	1	1	1	YU06080260	Jumper Lead (6P)
WE19	1	1	1	YU06080260	Jumper Lead (6P)
					PF01-EQ VOLUME CIRCUIT BOARD
PF01	1	1	1	YN022H2630	P.W. Board/EQ Volume
				ZZ022H8630	P.W. Board Assembly
					PF01-RESISTORS
RF01 ~ RF10	1	1	1	RS05030460	50kΩ(W) Resistor, Variable
					PG01-POWER LED CIRCUIT BOARD
PG01	1	1	1	YN022H2640	P.W. Board Power LED
	1	1	1	ZZ022H8640	P.W. Board Assembly
DG01	1	1	1	HI10052020	L.E.D. LN250RPH RED
					PX01-DEFEAT/TAPE 1-2 SWITCH CIRCUIT BOARD
PX01	1	1	1	YN022H2650	P.W. Board Defeat/Tape 1-2 Switch
	1	1	1	ZZ022H8650	P.W. Board Assembly
					PX01-RESISTORS
RX01	1	1	1	GD05122140	1.2kΩ
RX02	1	1	1	GD05561140	560Ω
RX03	1	1	1	GD05102140	1kΩ
SX01	1	1	1	SP06030220	Push Switch Function
					PW01-POWER SWITCH CIRCUIT BOARD
⚠PW01	1	1	1	YN022H2660	P.W. Board Power Switch
	1	1	1	ZZ022H8660	P.W. Board Assembly
⚠SW01	1	1	1	SP02010960	Push Switch Power

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

8. TECHNICAL SPECIFICATIONS

AUDIO SECTION

RATED OUTPUT . . . . . 150 mV
TOTAL HARMONIC DISTORTION AT RATED OUTPUT, 20 Hz TO 20 kHz 0.005%
I.M. DISTORTION AT RATED OUTPUT
(250 Hz AND 8 kHz MIXED, AMPLITUDE RATIO 4:1) 0.005%

Sensitivity for Rated Output
LINE IN . . . . . 150 mV
TAPE 1 IN, TAPE 2 IN . . . . . 150 mV
Frequency Response (±1 dB) . . . . . 10 Hz ~ 30 kHz
Signal-to-Noise Ratio (1V 20 dB) . . . . . 110 dB
Channel Balance
LINE . . . . . ±1 dB
Inter Channel Crosstalk (1 kHz)
LINE . . . . . 90 dB
Output Voltage (1 kHz)
LINE 7V
Input Impedance (1 kHz)
LINE IN . . . . . 47 k ohms
Output Impedance (1 kHz)
LINE OUT . . . . . 100 ohms
EQ Action for each channel (30 Hz, 60 Hz, 120 Hz, 240 Hz, 500 Hz, 1 kHz, 2 kHz,
4 kHz, 8 kHz, 16 kHz) . . . . . ±12 dB

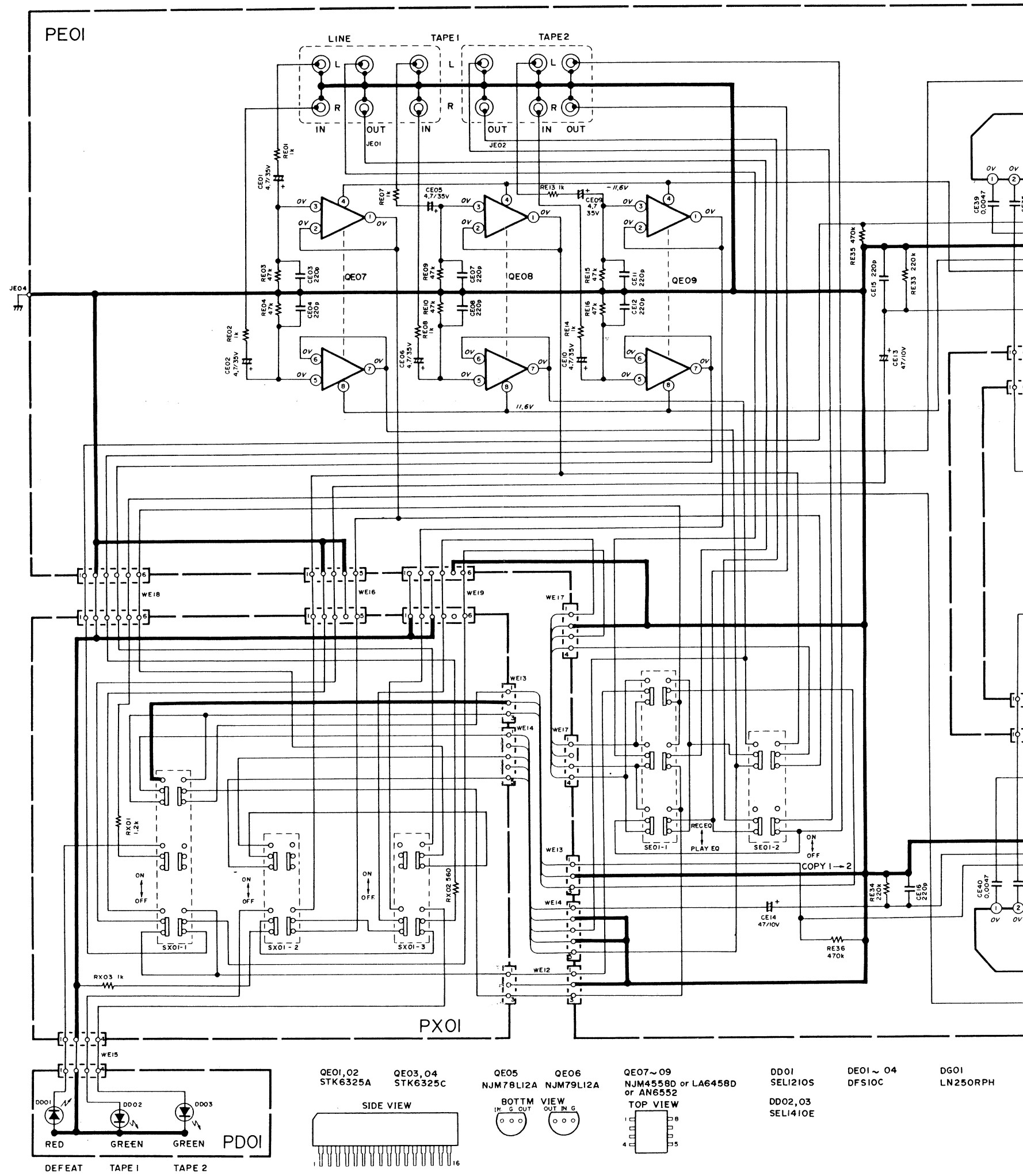
GENERAL

Power Requirements . . . . . 110–120/220–240V AC, 50/60 Hz
Power Consumption at Rated Output, both Channels Driven 6W
Dimensions
Panel Width . . . . . 416 mm
Panel Height . . . . . 55 mm
Depth . . . . . 192 mm
Weight
Unit alone . . . . . 2.1 kg

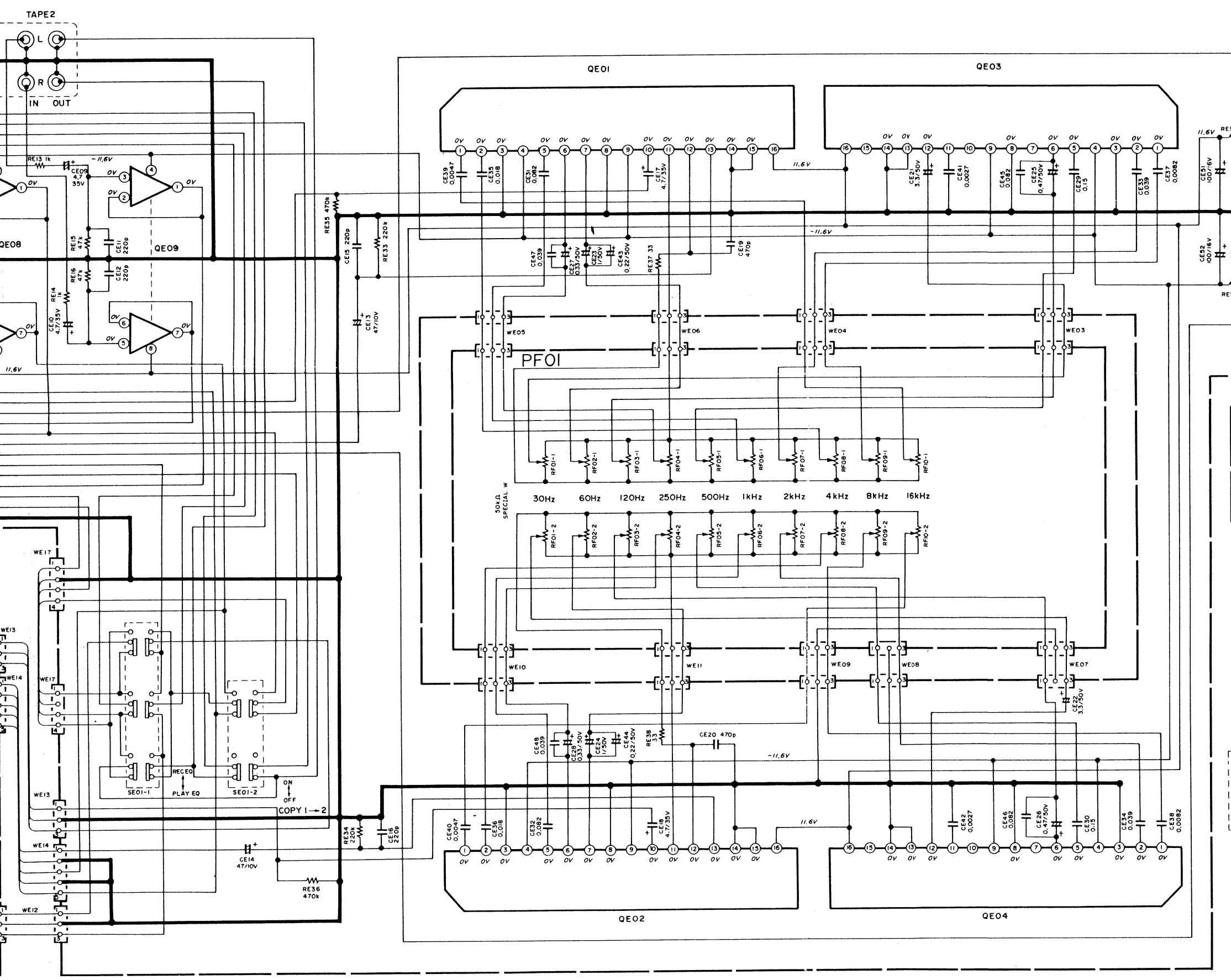
Specifications and appearance are subject to change for modification without notice.

MEMORANDUM

9. SCHEMATIC DIAGRAM



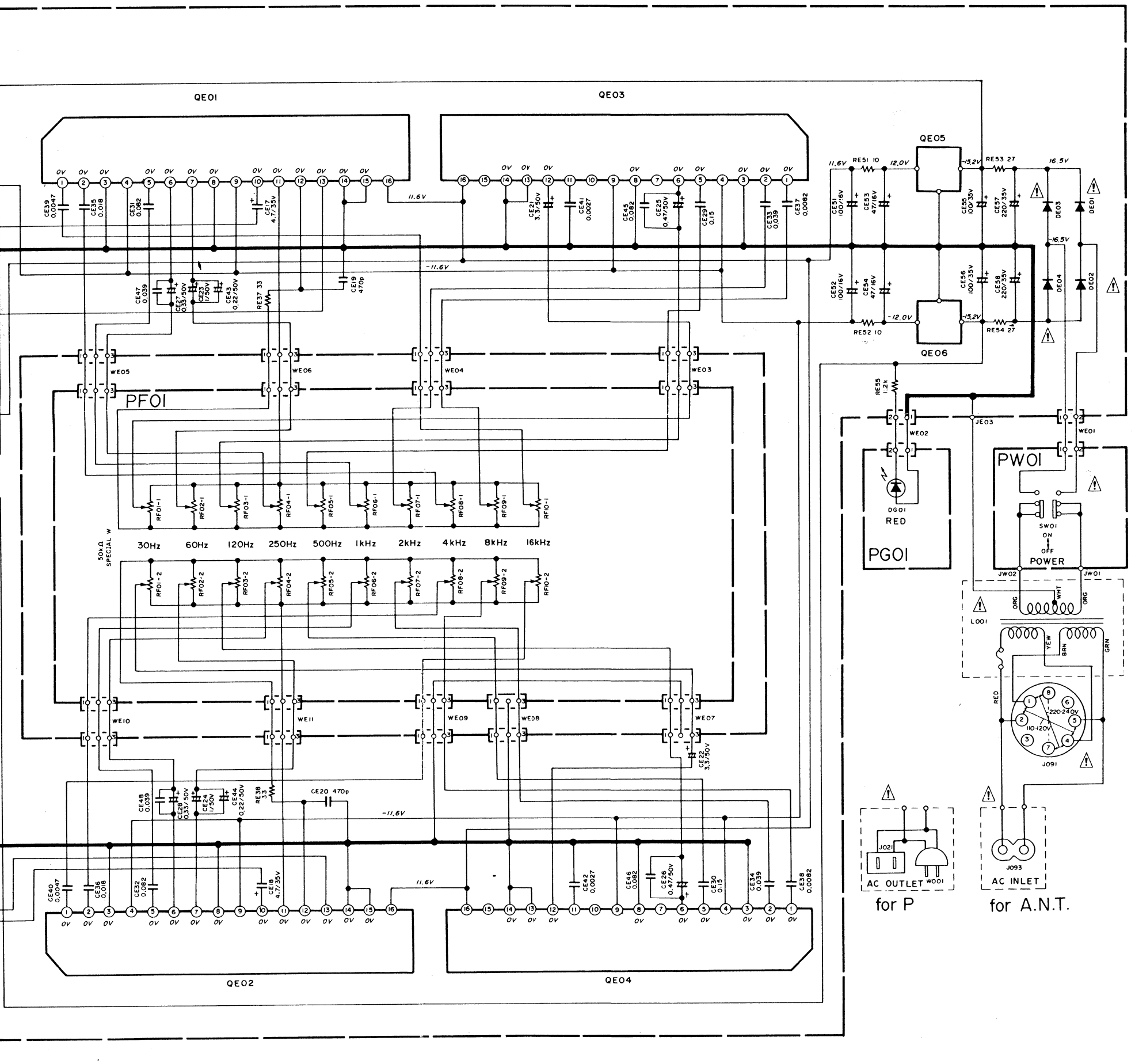
Components and wiring are subject to change for modification without notice.



05	QE06	QE07~09	DD01	DE01~04	DG01
8LI2A NJM79LI2A		NJM4558D or LA6458D or AN6552	SELI210S	DFS10C	LN250RPH
OTTM VIEW G OUT OUT IN G		TOP VIEW	DD02,03 SELI410E		

tion without notice.

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part mark
Any other component substitution (other than original type), may increase risk of fire or electrical shoc



DG01

LN250RPH

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ .
Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.